CLAIMS

1. A method for characterising OSI-materials, with which the material is introduced into a measurement cell and is subjected to a gas mixture containing oxygen, and after a certain time or at certain time intervals, a defined volume part of the gas mixture is measured with regard to its oxygen concentration in a measurement circuit, which together with the time component represents a characterisation of the OSI-material, characterised in that the OSI-material in the measurement cell is subjected to the gas mixture circulated in a closed reaction circuit, and the defined volume part is conveyed into a measurement circuit containing a gas, for the measurement of the oxygen concentration.

2. A method according to claim 1, characterised in that O_2-scavengers and/or O_2-indicators are applied as OSI-materials.

3. A method according to claim 1 or claim 2, characterised in that for characterising the material in the measurement cell, in particular an O_2-scavenger, the oxygen reduction in the gas flow in dependence on the mass of the material is measured as a capacity variable and/or the temporal change of the oxygen reduction is measured as a kinetic variable.

4. A method according to one of the claims 1 to 3, characterised in that the colour and/or a colour change of the material in dependence on the oxygen concentration is measured, for characterising the material in the measurement cell, in particular an O_2-indicator .

5. A method according to claim 4, characterised in that the colour and/or the colour change and/or the colour change in dependence on the integral of the oxygen concentration x time is measured.

6. A method according to one of the claims 1 to 5, characterised in that with O_2-scavenger/O_2-indicator systems, the colour change of the O_2-indicator in dependence on the residual capacity of the O_2-scavenger is determined.

7. A method according to one of the claims 1 to 6, characterised in that for initialising the OSI-material, the gas flow in the reaction circuit is subjected to humidity.

8. A method according to one of the claims 1 to 6, characterised in that for initialising the OSI-material, this in the measurement cell is subjected to UV-radiation.

9. A method according to one of the claims 1 to 8, characterised in that the initialisation point or initialisation region of the OSI-material is determined depending on the relative humidity or the intensity and/or the wavelength region of the radiation.

10. A device for characterising OSI-materials with a closed reaction circuit and with a measurement circuit, wherein the reaction circuit (1) comprises a device for the supply of a gas flow containing oxygen, a pump (5) for delivery of the gas flow, and a measurement cell (6) for receiving the OSI-material, and the measurement circuit (2) comprises a sensor arrangement (11) for detecting oxygen, and an evaluation unit (12), wherein a part of the gas flow circulated in the reaction circuit may be conveyed into the measurement circuit with a defined volume.

11. A device according to claim 10, characterised in that the measurement circuit is a closed measurement circuit and comprises a device (9) for the supply of a gas flow, a pump (10) for delivery of the gas flow, wherein a part (4) of the reaction circuit (1), with the defined volume, may be switched into the measurement circuit (2) via valves (7).

12. A device according to claim 10 or claim 11, characterised in that the measurement circuit (2) comprises a switch-over branch (3) which may be switched into the reaction circuit (1) via the valves when the part of the reaction circuit (1) with the defined volume is switched into the measurement circuit.

13. A device according to claim 10, characterised in that the sensor arrangement (11) contains at least one oxygen-sensitive sensor, and the evaluation unit (12) contains an integrator.

14. A device according to one of the claims 10 to 13, characterised in that the device (8) for the supply of the gas flow containing oxygen into the reaction circuit (1) is connected to a humidification unit (15), which subjects the gas flow to a humidification necessary for the initialisation of the material in the measurement cell (6).

15. A device according to one of the claims 10 to 14, characterised in that the measurement cell (6) is transparent to settable wavelength regions.

16. A device according to 15, characterised in that a UV-radiation source which irradiates the material for its initialisation, is allocated to the measurement cell (6).

17. A device according to one of the claims 10 to 16, characterised in that a device for measuring the colour and/or the colour change of the material is allocated to the measurement cell.

18. A device according to one of the claims 10 to 17, characterised in that the reaction circuit comprises a sample loop (4) containing the defined volume part, which may be switched into the measurement circuit (2) via multi-way valves (7).

19. A device according to one of the claims 10 to 18, characterised in that the components of the reaction circuit (1) and of the measurement circuit (2) are encapsulated.